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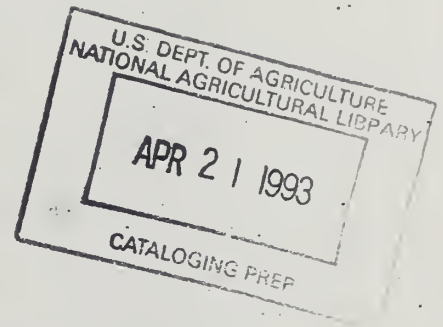
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CONSUMPTION STATISTICS



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OUTLINE

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INTRODUCTION

As a result of Peru's chronic food deficit and the need to plan policy to overcome it, the GOP as well as foreign donor agencies have in recent years manifested renewed interest in food consumption statistics. The high growth rate of the Peruvian population (nearly three percent per year), swift urbanization, and the decline in subsistence production and consumption cause market demand for food to expand rapidly even at modest or no improvements in real consumer incomes. Domestic production, on the other hand, is insufficient to satisfy demand. The difference between production and consumption has during decades been made up by imports. Periodic, independent estimates of food demand and its determinants (as opposed to residual estimates such as the one derived in food balance sheets) are a prerequisite for planning efforts aimed at reconciling supply and demand.

It is the purpose of this report to determine the GOP's needs for consumption statistics, to review the data sources available to government uses, to evaluate their analytical potential, and to discuss improvements relating to design and methodology of current and future data collection efforts. The three principal sources of food consumption data are the Encuesta Nacional de Consumo de Alimentos (1971/72), the Encuesta Nacional de Hogares de Propósitos Múltiples (1978), and the Encuesta Nacional de Hogares Individuales (periodic). Each of these is discussed in some detail below.

SUMMARY AND RECOMMENDATIONS

The ideal scheme of consumption statistics for planning and economic analysis in Peru is two-pronged and consists a) of data collected once every ten years on food consumption, household budget allocation, and their determinants, and b) of small-scale, high-periodicity surveillance surveys regarding levels of consumption and nutrition among specific target groups. Whereas the first type of information, which includes a complete account of sample household economies (employment, income, expenditures, and consumption) forms the basis for long-term policy planning, given specified policy objectives, the aim of the second type of data collection effort is to monitor the performance of the food system (price and income policy, structure of supply) at the consumer level. It, thus, forms the basis for temporary or permanent adjustments of consumption policy aimed toward certain specified objectives.

The GOP has during the 1970s attempted to institute this scheme of consumption statistics. The principal vehicles for collection of

these two types of data are, respectively, the Encuesta Nacional de Consumo de Alimentos (1971/72) and the Encuesta Nacional de Hogares Individuales. The main recommendation of this report is that this scheme be consolidated and strengthened in order to guarantee its survival and to improve its quality as a data reporting system. More specifically, it is recommended

- that a new Encuesta Nacional de Consumo de Alimentos be carried out in 1981/82, and in this connection
- that a multisectoral steering committee (and a technical advisory committee) be set up forthwith, the first to plan the institutional organization and financing, the second the design, of the new survey;
- that the urban Encuesta Nacional de Hogares Individuales, which has been plagued by serious shortcomings in quality, be maintained and improved;
- that a network of nutritional surveillance points be set up in the rural areas, and in this connection
- that discussions be held between OSE, the National Nutrition Institute, and Oficina Nacional de Apoyo Alimentario to determine possibilities to pool resources in a combined nutritional surveillance effort.

The quality improvement of Encuesta Nacional de Hogares Individuales requires design changes and an increase in operating budget. The suggested design changes include reducing the periodicity of the survey from monthly to quarterly and increasing the period of observations of family food purchasing behavior from one to three days. A list of activities to determine the minimal budget needed annually to develop standard-quality survey data is spelled out in the last section of the report.

1. The National Food Consumption Survey (ENCA)

Although several household budget studies were carried out in Peruvian cities, and particularly in Lima, during the 1950s and 1960s, the first methodical and large-scale consumption survey was the 1971/72 Encuesta Nacional de Consumo de Alimentos (ENCA). Based on a statistical sample^{1/} of 8,000 households distributed over the major geographical regions of the country, ENCA provides quantitative food consumption data obtained by the seven-day weighing method, family income and expenditures, employment data, and a wealth of information regarding household characteristics and social welfare indicators. The survey also provides auxiliary data such as family age/sex composition and meal presence by members which are required for the evaluation of the nutritional adequacy of observed consumption levels. Anthropometric measurements (weight and height) permit nutrition status assessment of individuals.

The quality of the information on household consumption patterns is in general high, but it is inversely related to the survey sites' distance from Lima and it is higher in urban than in rural areas.

Because of financial limitations, management problems, and, most importantly, insufficient access to computer hardware and software, processing and editing of the information took years after the successful completion of field work and was at least in part carried out independently at the Ministry of Economy and Finance and the Ministry of Food. To this day there exists no single official ENCA data set. Different researchers have used the data at different levels of editing and may or may not have done their own additional editing using their own criteria. As a result of the delays in processing (data editing was terminated at both Ministries in 1977) and the high cost of creating project-specific data files that respond to particular analytical needs, it is unlikely that ENCA will ever be fully exploited for analysis.

Nevertheless, the analytical documents which have been published so far and those which are currently in preparation cover the ground of the ENCA data in considerable detail. Some of these documents were prepared in response to specific requests by policy makers for certain kinds of information. Others (the majority) constitute independent applied research efforts. They include demand projections elaborated at OSPA; the development of new weighting factors for components of urban household budgets subsequently used for the

^{1/} Sample design and the mechanics of field work are explained in ENCA, Diseño Muestral (Publicación No. 2), Ministerio de Agricultura, Lima 1974.

construction of consumer ^{price} indices at ONEC (now ONE); a study of regional income differentials and their determinants^{2/}; one of levels of living and nutritional status^{3/}; and several sophisticated analyses of family budgets and food demand^{4/}, all carried out at MEF; an effort to compute complete schemes of direct and cross-price elasticities for basic foods^{5/}, and a food and nutrition policy planning study for the Central and Southern Sierra^{6/}. Furthermore, various summary-type ENCA publications, particularly a series of volumes containing the composition of average household expenditures and consumption in tabular form by region enjoy wide circulation.

The main analytical purpose of large-scale household budget and food consumption surveys of the ENCA type is to provide information not only on consumption, but on its determinants at the household level such that it is possible to develop predictive conclusions regarding demand, consumption, and ultimately family welfare as measured in nutritional and other terms. The variables which are observed by the survey must reflect hypothesis regarding the determinants of family consumption behavior. It is the astuteness of these hypothesis which determines the questions asked of respondents and hence (for given data quality) the analytical potential of the survey.

As argued below, the design of the ENCA survey is more appropriate for the study of consumption patterns in urban rather than in rural partial subsistence households. Despite certain analytical shortcomings, the survey has nevertheless contributed substantially to knowledge regarding a) changes in food consumption patterns due to

2/ MEF, DGAF, Estructura y Niveles de Ingreso Familiar en el Perú, Lima, 1977.

3/ MEF, DGAF, Niveles de Vida: Análisis de la Situación Alimenticia en el Perú, no date.

4/ MEF, forthcoming.

5/ Lizardo de las Casas Moya, Esquema de Análisis de Políticas Alternativas del Sector Agrario, Lima (OSPA) 1978.

6/ This author's PhD dissertation, Cornell University, Dept. of Agricultural Economics, forthcoming, 1979.

the phenomena of migration, urbanization, and the traditional price and exchange rate policies which favored food imports; b) the nature and extent of nutritional deficiencies in rural and urban areas; c) the socioeconomic and geographic characteristics of groups "at risk" of under nutrition; d) the spatial and social distribution of poverty and access to resources; and e) strata-specific repercussions on consumption due to changes in real income, the subsistence proportion of income, and other variables. Policy effects on purchases and consumption can be simulated and studied on the basis of the elasticities of the observed variables with respect to consumption.

While the ENCA information can be extrapolated into the future to a certain degree, the accuracy of the inferences diminishes as time progresses and structural changes occur in the economy. Hence, base-line data of the ENCA type should be collected at regular intervals. The length of the interval depends largely on economic considerations. Ten years would appear a reasonable compromise between the latter and the analyst's interest in timely data^{7/}. It is therefore suggested that ENCA 2 (i. e. a household budget and food consumption survey of the ENCA type) be carried out during a twelve-month period in 1981/82, or as near as possible to this date if the population and agricultural censuses which are planned for the same years preclude the simultaneous execution and processing of ENCA 2.

With ENCA 1 Peru figures among the best-documented Latin American countries in relation to the consumption and demand component of the national food economy. ENCA 2 will add to this distinction, particularly if its planners exploit the advantage of being able to draw upon, and learn from, the experience of ENCA 1. The inherent and not readily solvable difficulties in the elaboration of production statistics (see Van de Wetering report) and the circumstance that sample surveys to study consumption are easier to devise than procedures to collect production statistics, justify the realization of ENCA 2 not only because it will create accurate information regarding at least one of the two planning areas of production and consumption, but also because consumption data can be used to estimate production once appropriate assumptions regarding seed, feed and other uses including waste are made.

In order to get ENCA 2 under way in the early 1980s, planning must start now. Two major points that must be addressed in this effort are institutional organization and design. Like its predecessor, ENCA 2 will constitute a major and expensive data collection effort which requires minute preparation in these areas.

^{7/} The prevailing idea at ONE is that the interval should amount to five years which is one reason why an urban household budget (but not consumption) survey was carried out by this institution in 1978 (see next section).

The institutional organization of ENCA 2 will respond to the multisectoral character of the undertaking.

A multisectoral planning commission including representatives of INP, OSPA, OSE, ONE, MEF, the National Institute of Nutrition and possibly a university should function as a coordinating group throughout the duration of the project and should begin its work by determining the appropriate institutional affiliation (housing) of ENCA 2 and ways to finance it. The alternatives regarding the first point are to house ENCA 2 in OSE (with an appropriate budgetary expansion in this institution) or to create a new, independent institution as a special project whose director reports to the vice-minister. The principal advantage in adding ENCA 2 to OSE's normal data collection and processing activities is that the additional work resulting from a prestigious project would generate a significant momentum for building up and strengthening OSE as an institution. A potential disadvantage inherent in this set-up relative to the alternative of creating ENCA 2 as an independent special project is that OSE, as a permanent institution, may not be sufficiently flexible to respond adequately to the frequent need for ad hoc decisions which arise from the nature of large-scale survey work, particularly during the field stage. Exceptions to standard administrative procedures are likely to be required in the interest of the project; appropriate pay rates for enumerators, for example, may differ from those normally paid by the Ministry to people with comparable preparation. These special requirements may be more easily defended and managed by a temporary, independent institution set up exclusively for the purpose of carrying out ENCA 2.

On the other hand, such an institution would require infrastructural support, particularly in computer work, which would presumably come from OSE. (See Diskin and Marshall reports for recommendations regarding the improvement of OSE's data processing capacity.) It is imperative that the support structure to ENCA 2 be negotiated ahead of time in order to clarify responsibilities and to avoid the years of delay which characterized the processing of ENCA 1 because of insufficient data processing capacity. (No editing, key-punching and processing of in-coming ENCA 1 questionnaires took place during the entire year of field work. Key-punching all of the information of all questionnaires took close to a year and a half under a scheme where ONEC put one daily shift of key-punchers at the disposal of ENCA 1 for free. Moreover, much more than the necessary amount of first-round consistency checking was done manually.)

In order to assure the timely availability of results, financial planning for ENCA 2 must at once consider the whole package of activities which are involved from the study design to the field work, production of a clean standardized data bank and publication

file

of basic statistics in tabular form. It is premature to spell out a detailed cost estimate as long as the new survey has not been designed and OSE's data processing capacity in the early 1980s remains unclear. Based on past experiences in Peru and elsewhere, the total cost of a large-sample household budget and food consumption survey lies at least in the one million dollar range.

Regardless of whether ENCA 2 is financed multisectorally or by the Agriculture Ministry alone, there will be considerable need/scope for AID to supplement national funds for this purpose. If the Agency is willing to spend funds to improve the statistical data base for economic analysis and planning in Peru, a contribution to the realization of ENCA 2 (as well as to the improvement of data processing capacity; see Diskin and Marshall reports) would appear to entail greater benefits per dollar spent (in terms of analytical x information created) than funding of any other data collection or analysis project. The ultimate objective of development policy is to enhance society's welfare by acting to progressively remove the constraints to wellbeing at the level of social groups and their cells, individual families. A micro-economic survey regarding family income and its determinants on the one hand and expenditures on the other (as opposed to macro-level investigation) is needed to produce the information regarding constraints to wellbeing which planners require. By means of an ENCA-type survey, a vast amount of information concerning the nature of socioeconomic change in the country can be amassed in a controlled one-year data collection effort. In this type of study, the population can be approximated closely by appropriate statistical design. Furthermore, the technical knowledge for reliable field observation and processing of the information exists and can be adapted to the peculiarities of the Peruvian cases.

There is considerable scope to improve the design (analytical content) of ENCA 2 relative to that of its predecessor survey. It is suggested that a technical advisory committee, consisting of people who have worked with the ENCA data (particularly the MEF, DGAF, research groups and the former executive director of ENCA), be formed for the purpose of designing the new survey.

Among the areas that call for changes in design relative to ENCA 2 figure the length of the food intake weighing period and the set of variables to be observed or used as criteria to pre-stratify the universe such as to improve understanding of the determinants of consumption in rural areas.

Quantity (as opposed to monetary) data on food purchases and consumption are needed for the evaluation of demand and nutritional

intake. The two ways to obtain quantity data are by recall and by weighing. While the difference in reliability and validity between the two methods has not been adequately investigated, it is generally agreed that weighing produces superior results. It is the only way to obtain reliable information on both subsistence consumption and actual intake, in the first case because the cross-check between amount paid and quantity purchased (which constitutes a memory aid for the respondent) cannot be performed, and in the second case, because the error due to deficient recall is compounded by the fact that it is necessary to account not only for the gross weight of ingredients into meals, but also for their net weight (i. e. gross weight minus waste, left overs, and inedible portions.) Thus, in an in-depth study of the ENCA-type with the objective of evaluating demand and nutrition, the question is not whether or not food ought to be weighed, but rather during how many days weighing ought to take place.

Weighing of food is time-consuming and taxes respondent patience. Hence, it is imperative to shorten the weighing period to the minimum that is compatible with the aim of obtaining reliable data. In the case of a combined expenditure-consumption-nutrition survey, the decision regarding the length of the period of observation is complicated by the circumstance that the optimum survey duration is not necessarily the same for nutrition status assessment and the collection of expenditure data.

In ENCA 1 weighing of food intake for the purpose of nutritional status evaluation took place twice daily during seven days. (Food consumed at breakfast and between-meal snacks were enumerated by recall.) In retrospect it appears doubtful that the seven-day weighing of food intake produced more precise results than those which could have been obtained during a shorter, say three-day, study organized such that weighing takes place with equal frequency on any given day of the week. Diets of low-income families are, after all, often monotonous and even though some families desire to improve on their normal consumption patterns for the sake of the survey, their incomes are generally too low to permit this activity during more than a day or two. Based on a review of the literature on dietary survey methodology and comparative studies of the validity of calorie and protein intake data derived by different periods of weighing, it has recently been suggested^{8/} that there is no

8/ Aaron Lechtig, et al. in Archivos Latinoamericanos de Nutrición, 1976.

significant difference in data precision between the three-day and the seven-day weighing survey. Hence, the seven-day weighing of food intake in ENCA 1 (which FAO has advocated in the case of similar studies in a number of countries) was probably excessive.

On the other hand, the irregularity of the income stream of many poor families may be responsible for irregular buying patterns which are more completely captured in a week-long survey. The seven-day observation period for expenditures and purchases should probably be retained, noting that weighing purchases (i.e. gross consumption) is less onerous than weighing food intake, since waste, leftovers, and inedible parts do not have to be accounted for separately.

The reduction of the period during which food intake is weighed can be expected to free time for in-depth observation of explanatory variables, i.e. the collection of basic data on farm-assets in rural areas and detailed information on labor use and employment in both urban and rural areas. Since the complexity of the process of family income formation becomes greater the poorer a family is, and since the majority of the sample families in ENCA 2 will be poor, it is desirable that particularly in rural areas much more detailed information on employment be collected in ENCA 2 than was the case in the preceding study. ENCA 1 attempted to obtain year-round employment data for active family members by means of seemingly straight-forward questions regarding the place and type of jobs, as well as the income earned in each activity. Unfortunately, there is no way that such questions, asked once, can result in a reasonably complete picture of labor use and income derived from various activities. The informants, after all, have no particular interest in revealing their income sources and are therefore likely to invent answers, hedge the question, or report only part of their productive activities. There are also limits to human memory and people may not remember their income and its sources during the year preceding the survey.

Innovative survey design could do much to improve the "analytical return" per dollar spent on ENCA 2. A basic question to be asked in designing data collection in an area of investigation such as employment is how the problem can be broken down into components which are amenable to observation in recall interviews. In the case of some variables worthy of observation it may be necessary to compromise by omitting them from the large-sample study and investigating them in a sub-sample or intense case studies in which the same units of observation (families) are observed several times during the survey year.

Changes in the design of ENCA 2 should not only relate to questionnaire content, but also to sampling. In the Sierra, environmental

factors are important determinants of agricultural production and levels of food consumption. The interactive variation in altitude, topography, and exposure creates a myriad of micro-ecological conditions in this region, without reference to which income, subsistence behavior, and consumption patterns of rural families cannot be understood. Since the sample of ENCA 1 ~~was not based on an ecological stratification~~^{9/} of the universe and since the questionnaire does not contain information on the farm resource endowment and/or production characteristics that would permit inferences regarding the households' microclimatic situation, it is not possible to dissociate the effect of ecology on consumption from the effects of socioeconomic characteristics and seasonality. Thus, the unexplained proportion of variance in the composition and in absolute levels of consumption is appreciably greater for the rural sample of ENCA 1 (most of which is located in the Sierra) than it is for the urban observations.)

In view of the great ecological heterogeneity of the Sierra, and the need to reduce it to known sources of variation, it is probably wise to both pre-stratify the population prior to sampling and to open up the possibility to post-stratify on the basis of observed variables relating to the determinants of farm production. The identification of criteria for 'stratification' and ways to measure them is the most important task in preparation of a new survey.

2. The National Multiple Purpose Household Survey (ENAPROM)

Between January and December 1978, ONE carried out a 7000 family household budget survey in Lima (n = 2000) and 13 other cities. This survey constitutes the first of several vaguely planned phases of Encuesta Nacional de Hogares de Propósitos Múltiples (ENAPROM). The purpose of the first phase of ENAPROM was to collect the information necessary to update the weights of individual consumer goods in family budgets which are prerequisites for the construction of ONE's official monthly Laspeyres-type consumer price index series^{10/}. Employment data and independent income

^{9/} The sample was independently drawn for nine regions into which the country had been divided. They account for macro-ecological variation. But within the Sierra it is micro-ecological variation that must somehow be controlled because of its considerable impact on consumption.

^{10/} In preparation of this series, retail prices of representative household budget components are observed in a variety of types of vending establishments.

estimates complement the information on budget allocation contained in the survey. Food commodities were not weighed, but quantities purchased were recorded on the basis of recall. No information on nutrition and health indicators was collected.

The ENAPROM data are currently being processed and edited.

As explained by ONE staff, the ENAPROM is conceived as a permanent urban survey structure through which household data are collected as the need arises and funding is available. The next round of ENAPROM, for example, is planned as a survey of social welfare indicators (health, schooling, housing, etc.) Subsequent rounds may address other issues or may constitute repetitions of surveys for the purpose of updating information. For example, ONE makes an effort to carry out household budget surveys once every five years.

Apart from statements of intent to the effect that ENAPROM is a permanent survey structure, there are, however, no firm commitments nor precise ideas as to the next step that might be undertaken in the name of ENAPROM. Officials at ONE have voiced interest in handling responsibilities for future ENAPROM surveys to OSE. (ONE is empowered by law to coordinate the activities of sectoral statistics offices.) Given its resources, OSE, of course, could not at the present time handle any significant addition to its workload. But the point is moot, since nobody has operationally defined the purpose of the next ENAPROM survey. ENAPROM 2 on social welfare indicators might well be fused with OSE's ENHI survey (see next section) if the latter is continued and the questions asked and interview time spent on health, education, and housing, etc. were kept to a minimum.

With plans for a new ENCA (which, like ENCA 1, will contain more than the information needed to fulfill the purposes of the ENAPROM household budget survey), the ENHI survey, and the interest voiced at ONE in collecting additional household-level information under the ENAPROM scheme, an attempt on ONE's part to coordinate the gathering of household-level statistics would be beneficial. For example, if ENCA 2 is carried out in the early 1980s, there is certainly no need for a repetition of the ENAPROM household budget survey at about the same time. If there is a choice to be made between ENCA 2 (which covers the rural areas) and a new edition of the ENAPROM urban household budget survey, then ENCA 2 is the preferred alternative from an analytical perspective.

From the point of view of this author, no recommendations can be made regarding the coordination of household-level data collection efforts as long as the objectives of future ENAPROM activities are

not spelled out. As a statement of principle, it would appear that analysts and planners in a country with extremely limited resources such as Peru would be better off if the National Statistics Office structured household-level data gathering efforts around an ENCA-type survey every ten years, perhaps with an urban update on family budgets every five years, than attempting to investigate relatively narrow fields of interest such as "social welfare indicators" at random points in time and by means of surveys that, due to budget limitations, do not include the minimum number of independent variables needed to transform the data or statistics into knowledge.

3. The National Survey of Individual Households (ENHI)

The general objective of Sistema Nacional de Estadísticas Alimentarias (SINEA), which was instituted in 1975, after the creation of the Ministry of Food, was to collect continuous data on production and consumption throughout the Republic. The Encuesta Nacional de Hogares Individuales (ENHI) constitutes subsystem seven of SINEA and is the system's vehicle for monitoring at the household level the effects of cyclical changes in prices and availability of food which are largely consequences of shifts in macroeconomic variables, climatological fluctuations, and disruptions in the food system resulting from political instability.

The ENHI is a monthly household survey in which retail food prices and food purchases are observed. The food supply situation at retail is investigated by qualitative questions of the nature: Was the commodity available/not available; abundant/sparse in the vending establishment(s) in which you bought or attempted to buy it? More formally, enumerators interviewing housewives solicit information on the following variables for each commodity (see attached ENHI questionnaire):

- quantity (by survey design, but not necessarily in practice, determined by weighing)
- expenditure;
- estimated time of consumption (number of days during which a product purchased on the survey day is being consumed);
- type of vending establishment;
- supply situation.

ENHI is carried out in Lima where the monthly programmed sample size amounts to 1000 household, and 12 cities in which sample sizes vary according to the size of their populations. The samples are pre-stratified according to population economic status on the basis of the exterior appearance of family dwellings. A "low" and a "middle" income group (but no "high" income group) are sampled. Observations are replaced monthly such that a given family is studied only once. Interviews are scheduled to last about 20 minutes.

The analytical output of ENHI includes periodic bulletins published by OSE, and a somewhat more in-depth investigation carried out at OSPA. The periodic bulletins for Lima (usually one or two pages of tables and text) are a weekly report on the food supply situation, a monthly report on mean consumption levels of principal commodities and prices paid, and a quarterly aggregation of the monthly report. A research group at OSPA is currently working on a cooperative study of diet patterns and nutrition between 1976 and 1978.

ENHI was created because of two reasons. First, the philosophy underlying SINEA was to report on all components of the national food system. Hence, the need arose to institutionalize a periodic consumption survey. Second, in view of the publicity afforded the 1974 world food crisis, it was politically expedient to manifest concern for food consumption and nutrition by means of ENHI. With the 1978 fusion of the Ministries of Food and Agriculture recent changes in the political outlook, and drastic food price increases which brought growing hostility toward the survey on the part of sampled families, the argument of political expedience has lost much of its power in justifying ENHI. The first reason, on the other hand, is well worth additional scrutiny.

ENHI suffers from serious limitations regarding design, methodology, the mechanics and quality of field work, and, finally, processing. These limitations and possible remedies are below. Before turning to this topic, it is, however, necessary to determine how ENHI fits into a comprehensive scheme of national food consumption statistics and under what circumstances it should, or should not, be continued at all.

(a) The Ideal vs. the Minimal Scheme of Consumption Statistics

In view of the characteristics of the Peruvian food problem (insufficiency of domestic production and the resulting need for regular demand assessments; existence of a large, poor population fraction subsisting on income levels too low to permit them to consume food in nutritionally adequate amounts), the ideal scheme of family-level consumption statistics for the country is two-pronged and consists of

- data which are amenable to "forward analysis" or data which permit the formulation of coherent short-term and long-term consumption policy based on both, an understanding of the social and economic reality which bears on consumption, and policy objectives such as the gradual elimination of undernutrition, or the reduction in the imported component of aggregate food consumption, or a combination of the two;
- data which permit tracking the performance of the food system at the consumer level and hence form the basis for temporary or permanent adjustments of consumption policy geared towards attaining certain specified objectives.

The first kind of data are repeatedly obtained by means of ENCA-type surveys at relatively long intervals. The second kind of data are obtained by periodic surveys of the ENHI-type. These surveys constitute less ambitious data collection exercises, particularly with respect to independent variables. To the extent possible--given the information they must provide-- they are limited to the measurement of proxy variables and indicators, rather than attempting to observe the "real" variables which are interrelated according to specified hypotheses. Nutritional surveillance is based on the second kind of data which in this case might consist of certain anthropometric measurements (they are quicker and less costly to obtain than dietary intake).

The minimal scheme of consumption statistics required for food policy planning consists of sporadic ENCA-type surveys alone. Thus, if resource limitations or other considerations require that a choice be made between an ENCA-type survey and a system of periodic small surveys like ENHI, the former is the preferred alternative. It is a less attractive data base than that provided by the ideal scheme, because it does not permit frequent monitoring of food consumption. However, it must be noted that very few countries have periodic consumption studies of the ENHI-type or for that matter panels where the same households are observed periodically, and that food policy planning is usually based on the minimal scheme, if not on even scarcer data.

ENHI is therefore a rather unique resource in relative country terms. It should, however, only be continued if its methodology is improved and the resources available for it are increased to a level that permits the field work to be carried out according to the survey design. Although ENHI information on consumption trends has on occasion been used as a basis for policy decisions, the survey has

generally served only a limited purpose because of the low quality of the data that were collected by it.

Officials at OSE have long been aware of the quality problems of ENHI, but as a result of the institution's financial constraints they have not been able to take corrective action. ENHI was continued in order to preserve it as one of the activities of OSE, since even temporary discontinuing of the survey would have resulted in its termination as a project. (Note also that the Reglamento del Ministerio de Agricultura y Alimentación calls on OSE to collect consumption statistics, Title 7, Chapter 9, Article 82 i.) OSE has a small group of people who have been with the institution (or its equivalent) since the days of ENCA and who work primarily on consumption (preparation of tabular analysis of ENHI data). This group has considerable expertise in design, field work and editing of consumption surveys and OSE officials are rightly concerned about maintaining this expertise by having the group work on a consumption project.

Combine
ENCA - ENHI
into one ID
+ ENHI
inbetween
comply with
Reglamento.

The possibility to monitor consumption patterns periodically by means of ENHI is clearly attractive. It is recommended that the survey be continued, unless the funds and organizational capacity to improve design, field work, processing and the timeliness of publication of bulletins cannot be marshalled. An important analytical contribution of an improved ENHI survey on consumption (purchases) and prices is the possibility to compute direct and cross-price elasticities for principal foods after only one or two years, depending of the periodicity of the survey and the implied number of data points obtained per year. While these coefficients can be estimated on the basis of cross-section of the ENCA-type, their estimation from time-series is considerably more straight forward and does not suffer from the restrictive assumptions usually required when cross-section data are used.

There is a two-fold interest in monitoring the performance of the food system at the consumer level. First, the study of the evolution of consumption patterns (i.e. changes in absolute and relative levels of purchases of various components of consumer food baskets) is a prerequisite for planning measures to balance demand and supply. Second, the evaluation of nutritional status and the identification of undernourished groups through time (seasons), space, and in terms of socioeconomic characteristics forms the basis for nutrition intervention and income or price policy directed at specified target groups with the objective of augmenting their consumption of food. The evaluation of nutritional status requires data on either dietary intake, or anthropometry (at least height, weight, sex and age), or certain chemical and biochemical indicators, or, finally, a combi-

nation of these. In Peru, both consumption patterns and nutritional status should ideally be monitored through time by observing samples which are representative of larger population groups in both rural and urban areas.

ENHI is carried out in urban areas only and monitors consumption on the basis of purchases. Actual intake is not observed. Nevertheless, cautious inferences regarding intake and hence nutrition can be made from this information once the survey methodology is improved according to the suggestions made in section (c) below. The study of actual intake by weighing and meticulous recording of meal attendance by family members is too time-consuming for a short, periodic survey. Intake could be estimated relatively expeditiously by the 24-hour recall method, but since data on purchases are needed for economic analysis anyway, and since there is a need to keep things small and manageable, it appears more straight forward to base limited nutritional inferences on the latter data or on gross consumption as defined in section (c). As long as the survey methodology remains unchanged through time, the main interest regarding nutritional conclusions lies in the comparison of apparent total calorie and nutrient intake between social groups and periods, and this is perfectly permissible on the basis of data on purchases. When purchases (expressed in nutrient terms) are compared with nutritional allowances ("requirements"), it is, of course, necessary to qualify the conclusions by an evaluation of the size of the presumed difference between purchased and actually ingested quantities. Since purchases exceed actual consumption, it may be judged appropriate to adjust the reference intake values of calories and nutrients downward by a certain percentage. In conclusion, the basic type of information which ENHI seeks to collect (purchases) corresponds with the data requirements that arise from the specified two-fold interest in monitoring consumption and does not need to be modified or completed by an entire new line of variables^{11/}.

The determinants of food consumption patterns are less well understood in rural areas than in the cities, because subsistence behavior obeys rapidly changing non-market forces which are inadequately researched. While "surveillance" surveys of the ENHI-type cannot be expected to provide all the answers regarding the determinants of rural food consumption, they can generate useful information if they are directed at representative and explicitly identified groups.

^{11/} The possibility remains, of course, to add a limited number of variables regarding social welfare indicators to ENHI, if this satisfies the perceived data needs under the ENAPROM scheme (see section 2).

There exists great need for information on rural consumption patterns and nutrition, not only as a basis for preparation of rural development and assistance projects, but also for the broader purpose of finding ways to incorporate the improvement of rural standards of living into a balanced national development program. The problem is to identify the most cost-effective indicators of consumption and nutrition to be observed in the field, and whether or not OSE should/could assure responsibility for an additional data collection effort in rural areas. The basic assumptions in this discussion are a) that an exhaustive treatment of rural consumption can only be expected from a new ENCA survey, and b) that there is a need (as indicated above) for at least indicative periodic information on the question.

The options are to extend ENHI to the rural areas, with appropriate modifications in the criteria used to pre-stratify the population into socioeconomic classes or to abandon--for the time being-- the objective of collecting data on rural consumption patterns, including food purchases and prices, and to set up a network of nutritional surveillance points where longitudinal data are collected, not on the level and composition of consumption, but on nutrition status indicators such as weight and height for age and certain skinfolds.

Although OSE can draw on Ministry employees for additional field work (see Rowland report), the extension of ENHI to the rural areas is not recommended for the near future. As stated above and substantiated on the next section, considerable adjustments are required to improve the quality of ENHI data. It is suggested that these adjustments be made prior to burdening the survey apparatus with observations in rural areas. The implementation of a sample household survey in the countryside is much more costly than in the cities because of the greater distances, transport difficulties, and the need for generous enumerator remuneration as an incentive to work under rural conditions. Indeed, it is not believed that the information collected by ENHI (see also section (c) below), as opposed to that which would be collected by an ENCA-type study, justifies the cost of observing a statistical sample in the rural areas.

Nutritional surveillance based on the observation of physical growth characteristics and possibly consumption by the 24-hour recall method is likely to constitute a cheaper form of obtaining periodic information regarding nutrition in the rural areas. Anthropometric measurements are taken rapidly and at least to the extent that children of school age are being studied, like enumerator time is wasted in tracking interviewees down, since they can be readily observed at school.

Unlike ENHI, nutritional surveillance is not based on a statistical sample, but--in recognition of the high cost of sampling in rural areas--on community case studies. The policy objective of nutritional surveillance is to identify groups in need of food assistance or nutrition intervention. To this effect, communities of minifundistas that are typical of larger agglomerations in terms of physical resource endowment, climate, and off-farm employment opportunities are paid repeated seasonal visits by the surveillance team.

Nutritional surveillance is a multisectoral proposition. It touches OSE on account of the institution's mandate to collect household statistics that are amenable to economic analysis and the monitoring of family welfare through time. By its nature, it also belongs to the realm of responsibilities of the Health Ministry and particularly the National Nutrition Institute. In interviews, officials at the latter institution have voiced considerable interest in extending two current nutritional surveillance projects in Cuzco and Puno to other rural parts of the country. Interest in nutritional surveillance also exists at the Oficina Nacional de Apoyo Alimentario. There exists technical and analytical expertise in nutrition status evaluation at the National Nutrition Institute, but very little money to carry out projects and no data processing capacity. Multisectoral discussions between INN, OSE, and ONAA should explore the possibility of pooling efforts and resources and should determine the need for AID financial assistance to extend nutritional surveillance in the countryside.

(b) Shortcomings in Design and Implementation of ENHI

It appears that when the ENHI methodology for data collection was first developed, the objective of the survey was viewed as the study of fluctuations in food prices and availability or supply (see SINEA, Diseño Muestral y Método de la Encuesta de Hogares Individuales, DGIE, MAL, 1976). This, of course, is hardly worth a new household survey, particularly since food prices are already observed independently and published monthly by ONE. Information on the supply situation of food commodities could be obtained by more straight forward methods than a household survey, such as, for example, spot checks at a sample of representative vending establishments or (in Lima) reviewing EPSA's marketing records or verifying the influx of food commodities registered at the road blocks (gari-tas de control) which surround the city^{12/}.

^{12/} These alternative methods of assessing the supply situation of food commodities do not permit inferences regarding the types of households which are affected by supply disruptions.

While the limited analytical work which has been done on the basis of ENHI data has stressed consumption as the dependent variable and has attempted to explain it in terms of price and supply fluctuations (only this approach justifies ENHI as a "surveillance" survey), the design of the questionnaire still largely reflects the above, narrow objective and leads to problems in the interpretation of consumption. Furthermore, the sample size in Lima and the various cities was determined such as to satisfy the criterion of an error no greater than five percent in certain price variables, rather than in consumption. Since the variability in consumption is appreciably greater than that in price, the present sample size implies a much larger sampling error in consumption variables.

ENHI's shortcomings relate to its design, implementation in the field, and processing (see also Diskin and Rowland reports)^{13/}. In the realm of design, the method of observing consumption (purchases) and the selection of the sample pose particular problems. Shortcomings in implementation relate to the quality of the enumerators, the small number of supervisors, and a general climate of improvisation in the field.

Since each household is observed only once and household shopping habits by commodity are unknown, the home-maker is asked to estimate the number of days during which each purchased commodity will be consumed in order for ENHI analysts to be able to calculate daily commodity-specific expenditures and quantities. This "time of consumption" variable produces imprecise results, first because it is unclear whether the question refers to actual consumption or purchases, and second (assuming it refers to the latter), because for many commodities it is almost impossible to tell how many days with elapse between this and the next purchase.

There are two additional examples of source bias which result from the circumstances that enumerators visit each household only once and that no interviewing is done outside of office hours. The first question asked of the home-maker as the enumerator enters the house is whether or not she has done the day's shopping. If the answer is negative and, hence, there are no purchases to observe, the household is replaced. There is, however, no guarantee that replacement households have the same buying habits as the replaced families. Also, in cases where enumeration of purchases carried out in the

13/ A comprehensive report on these shortcomings has been written by Carlos Samaniego, MAA-OSE, (February, 1979).

morning takes place in the afternoon and the family has consumed part of the purchases, say, at mid-day, the weighing of purchases produces entirely useless results.^{14/}

Since no income data are collected by ENHI, the first step in sample design was to pre-stratify the population by socioeconomic indicators in order to permit the comparison of consumption patterns between "income" groups. Stratification criteria are the presence or absence of certain public services and the material appearance of districts, city blocks, and, finally, individual houses or dwellings. The link between income and these variables is tenuous in many cases. From the often illogical variation in observed consumption patterns between "income" groups, it is concluded that relatively wealthy people are found to be living in shantytowns and, vice versa, that (possibly as a result of the rapid deterioration in real income that occurred during the last three years) people living in seemingly dwellings have extremely modest consumption habits. Hence, the stratification criteria of ENHI must be revised.

(c) Recommendations to Improve ENHI.

The following assumptions underlie the recommendations to solve ENHI's problems of design and implementation:

- ENHI is to remain a periodic household survey with the objective of tracing in representative samples for selected cities the consumption effects of changes in prices and availability of food;
- Resources available for ENHI are tight at both the data collection and processing ends; hence the number of variables included (other than purchases and prices) is limited and the survey is designed such that interviewing time is kept to the minimum which is perceived to be compatible with reliable data.
- Since ENHI is a periodic survey, carried out a number of times each year, tabular summaries of the data must be published expeditiously and in no case later than four weeks after each data collection period.

^{14/} Purchases were weighed during the first two years of ENHI. Weighing was abandoned in August 1977.

This stipulation places further constraints on the amount of information that can be included in the survey.

The specific issues addressed include the periodicity of the survey, the measurement of purchases, the types of explanatory variables to be observed, the selection of ENHI cities, (see Diskin and Rowland reports, respectively, for evaluation of DP and personnel resources required for improved ENHI) and the sample design. ?

(aa) Periodicity

As a means of attaining a closer balance between ENHI's resource use and resource availabilities, it is recommended that the survey periodicity be decreased from monthly to quarterly observation. ENHI was organized as a monthly survey because much of the remainder of the SINEA reporting system operated on a monthly basis and because this periodicity was, rightly, considered the most informative for the study of price fluctuation and the publication of a price series. However, ONE is already publishing a monthly retail price series and, although one cannot learn from it what type of household paid what price, there is little justification for OSE to publish its own series, particularly if it is remembered that the institution does not have the wherewithall to assure adequate data quality control. The scope for breaking down statistics by classes is endless and it must be recognized that it is never possible for official statistical series to satisfy all research needs.

this can be obtained by barrio.

Quarterly data permit close monitoring of food purchasing patterns through time. There is, however, the potential problem that within-quarter price variation is large and possibly larger than the between-quarter variation. The former case would render the analysis difficult and the latter would make the stratification of the year by quarters pointless. A preliminary review of product prices of the last three years, observed by ENHI in both Lima and selected cities, suggests that inflation tended to supersede seasonal price effects, hence causing between-quarter price variation to exceed within-variation. A quarterly survey would therefore have produced meaningful analytical results in the past. The future effect of inflation compared with that of seasonality is of course, unknown. Relative to the system of monthly surveys, the quarterly regime implies a loss in within-block homogeneity in return for a decrease in survey cost. It may be possible to cancel part of this loss by selecting the beginning of the first quarter appropriately (the ENHI survey year does not need to coincide with the calendar year). Furthermore, a sampling scheme whereby the sample observations are equally distributed over a three-month rather than the current one-month period, permits the analysis of within-quarter variation, including the presentation by month of price and consumption means.

(bb) Measurement of Purchases and Consumption.

For reliable measurement of purchases it is necessary to increase the length of the survey at the family level and to establish an initial and ending inventory of food at hand in order to standardize the reference period for purchases. It is recommended that purchases be monitored during three days. Consumption during three days (but not ingestion in the nutritional sense) equals then initial stocks plus purchases minus ending stocks.

On the first day of enumeration, initial stocks as of the night preceding the interview and purchases that may have been made prior to the arrival of the enumerator on the first day are recorded separately. If purchases are not weighed, they are recorded on the survey form by the home-maker, with daily checks by the enumerator, otherwise the enumerator records them herself. The ending inventory is taken according to the size of the enumerator workload, either at the end of the third day after all purchases for that day are made, or in the morning of the fourth day. In order to facilitate the effort, only the standardized commodities that appear in the current ENHI questionnaire are observed. (For an illustration of the nature of the field work, see the attached draft questionnaire.)

The quantities of food at hand (inventories) are weighed by the enumerator. Purchases would ideally also be weighed, but this entails a significant reduction in the number of families an enumerator can handle per unit of time.

Successful weighing of purchases requires that the enumerator be present when the shopper returns from his/her shopping trip which is very difficult to plan. Purchases (including subsistence consumption) might therefore be redefined as gross consumption, i.e. food weighed prior to meal preparation.^{15/}

Meal preparation times are approximately known and home-makers' cooperation in laying their food out slightly ahead of actual preparation time can be obtained. Caution must, however, be exercised to avoid double-counting of left-overs.

^{15/} Net or actual consumption (ingestion) would be obtained by subtracting from gross consumption the wasted, inedible, and left-over parts weighed after the meal.

This approach would provide reliable estimates of gross consumption which could, among other uses, be exploited for indicative nutritional evaluation. Its two disadvantages are, first, that for its implementation two daily visits to the household are needed (preceding the two main meals) and additional time must be spent obtaining quantitative information, by recall, regarding consumption during the remaining daily meals. Second, the approach does not provide estimates of the correct quantities to calculate unit prices, because there is no guarantee that daily purchases coincide with daily consumption.

Given ENHI's objective of monitoring the consumption effects of fluctuations in prices and availability of food, unit prices figure among the most important variables to be observed. The correct quantities to calculate unit prices are those of purchases rather than consumption, i.e. the quantities obtained in exchange for the amounts paid (where the amounts paid are observed by recall). In view of the logistical difficulties associated with weighing of purchases (as opposed to gross consumption), it is suggested that the current ENHI practice of observing quantities purchased by recall be continued. Results obtained by this practice in the past were reasonable as far as broad consumption trends through time are concerned. This justifies the assumption that if the approach of estimating quantities purchased by recall is combined with improvements in the quality of field work and supervision on the one hand and in the design of the survey as suggested above on the other, reliable estimates of both purchases and consumption can be obtained from ENHI. In any case, the accuracy of this approach could be evaluated and this would be of considerable methodological interest by weighing purchases and/or consumption for a subset of ENHI observations, say, during one year, and comparing these results with the ones obtained by recall.^{16/}

(cc) Estimating Product Supply

Product supply or availability is "measured" in the qualitative terms outlined earlier (see also ENHI questionnaire in the Appendix). Even though little analytical use has been made of this information in the past, OSE officials have pointed out that information on the supply situation in sampled districts as perceived by housewives/shoppers is of interest to a number of institutions within the

^{16/} The comparison of product quantities purchased between the period when ENHI purchases were weighed and the period when they were not did not indicate unreasonable discrepancies in the case of most products. In view of the fact that the design of ENHI in the past and slack supervision have left room for ad hoc decisions by enumerators in important aspects of data collection, it is advisable to repeat this check under standardized conditions in which the only difference between survey methods relates to whether or not foods are weighed.

Ministry , including the Minister's office, the DGC and the DGAC. Hence, in revising ENHI, no change is suggested regarding this variable.

(dd) Additional Explanatory Variables.

As a periodic surveillance survey, the ENHI has much more limited objectives (specified above) than a survey of the ENCA-type. Hence, the number of explanatory variables other than price that can be observed by the survey is small.

Nevertheless, there are several variables with high explanatory potential which can be observed at low cost (particularly during a three-day survey) and which do not appear in the current ENHI questionnaire. They include the family age/sex composition, educational achievements of the family head and his wife, and a number of variables related to family socioeconomic status (principal occupation of the household head, category of work, blue-collar, white-collar, self-employed), and number of family members who are gainfully employed on a full-time or part-time basis, etc.) For two reasons no attempt is made to measure total income of ENHI sample families. First, given the objectives and limitations of ENHI it is too involved an exercise to have the enumerator go through the detailed breakdown of possible income sources (all labor use; transfer payments, capital gains, etc.) of every gainfully employed family member. Second, given the large error margin that usually characterizes family income derived from household surveys, it would be unwise to collect income data without at the same time observing all expenditures such that the two variables can be compared for the purpose of a consistency check.

(ee) Selection of ENHI Cities.

Due to funding limitations and organizational shortcomings, the implementation of ENHI has since its inception been much more erratic in the provinces than in Lima. From the premise that the survey should be carried out only where the resources exist to guarantee regular coverage of the sample and field work that abides by methodological standards, the need arises to determine how many cities should be surveyed and which cities ought to be selected.

In view of the renewed interest in regionalization of government and the resulting need for regional statistics, one may argue that ENHI should be carried out in as many cities as possible. On the other hand, from the point of view of national statistics this argument does not necessarily hold. ENHI is an urban survey, i.e. a survey of the country's cities despite its name which suggests

national coverage. Therefore, and because of the circumstance that it is probably not feasible, and most likely not cost-effective, to expand ENHI to semi-urban and rural areas, the survey by-passes a major portion of the country. There is undeniable merit in studying food consumption patterns through time in large cities such as Lima, Trujillo, Chinbote, Cuzco, Huancayo, and Arequipa. But it is not clear what is gained, from a national policy point of view, from surveying (as ENHI does) small urban agglomerations like Andahuaylas, Ayacucho, Tingo María, Tarapoto, etc. A survey of selected large cities is of interest for national food policy planning, because it refers to the principal centers of market demand for food. Supply planning by central government agencies focuses mostly on the needs of the large cities. Information on food consumption characteristics and the food supply situation in small cities is of local interest but the effort of data collection is only justified if the information is used as a basis for policy. This has not been the case in the past. *

Given the likely change in government in 1980, it is difficult to predict what will become of decentralization and what the concept will mean in terms of actual policy making power transferred to the regions. Until answers to these questions are known and the need for regional statistics to support regional policy planning is determined, it would appear appropriate to discontinue ENHI in small cities. A small number of ENHI priority cities, totalling perhaps five or six, should be identified according to the following criteria:

political .

geographic (both Sierra and Coastal cities should be surveyed)

financial (adequate resources must be available for salaries and logistical support of enumerators and supervisors and people capable of performing tabular analysis by hand in the provinces)

Central DP capacity in Lima (the total amount of ENHI data (Lima plus other cities) must not exceed processing capacity at OSE).

Food consumption data collected by means of periodic surveys in six large cities at the exclusion of sample observations from small towns can be considered valid information for urban Peru. When one makes reference to consumption patterns of the urban population, one has in mind that portion of the population which buys (as opposed to subsistence-produces) all or almost all of the food it consumes.

The people in this condition are the inhabitants of large cities. People who live in small town, such as many district capitals, often consume significant amounts of home-produced food or food which they receive as payment in kind for land rented out to farmers. Therefore, they are not urban consumers as defined above. The definition of "urban" employed by the 1972 population census was very broad as it included all district capitals and all settlements of a minimum of 100 housing units not more than 30 meters apart. For food policy planning, the economic criterion of whether or not people buy their food is a more relevant distinction between rural and urban areas than agglomeration density. By this economic criterion, "representative" urban consumption data are obtained by a survey that is limited to large cities.

(ff) Design of ENHI Sample Within Cities.

The design problem of ENHI that is most difficult to solve is the pre-stratification of the population by socioeconomic criteria. As stated in section (b), the currently used stratification criterion of exterior appearance of city blocks and family dwellings is not sufficiently correlated with family income to produce homogeneous socioeconomic strata. The alternative of stratifying on the basis of presence or absence of certain appliances in the household may constitute an improvement, but it is not without flaws, since it is not known how readily households change their appliances in response to changes in income.

It is suggested that the population be stratified on the basis of both ex ante and ex post criteria, where the latter are independent variables observed by the survey. Given that the relationship between family income and both the location and the appearance of family dwellings is not sufficiently understood, the combination of pre- and post-stratification appears to constitute the best approach to identify homogeneous socioeconomic strata. It remains unclear what the most powerful criterion or set of criteria for pre-stratification is and it is recommended that OSE staff investigate the matter. It is, however, conceivable that the present stratification criteria yield useful results if they are combined with criteria that can be developed from the survey.

At present, the population of Lima and most cities is grouped into a "low" and "middle" stratum for ENHI sampling purposes. The aim of post-stratification is to subdivide each of these two groups into two or more subgroups on the basis of (mostly qualitative) data regarding the employment situation of the household. This will raise the analytical potential of the survey by permitting the

comparison of dependent and independent variables between strata which are more clearly identified and homogeneous than the two strata currently considered.

To investigate the gain in strata homogeneity derived from combined ex ante and ex post stratification where the ex ante criterion remains the current one, it is suggested that a number of questions regarding the household employment situation be temporarily appended to the ENHI questionnaire, that this information be used to identify subgroups and that subgroup means and variances of consumption variables be compared among each other and with those of the combined "low" and "middle" groups.

In order to accommodate the survey design changes suggested above, the ENHI sample must be redesigned. The new sample should satisfy the following desiderata:

Stratification. The sample should be drawn independently for three socioeconomic strata ("low", "middle", "high") rather than the two which are currently observed. OSE officials have repeatedly pointed out their interest in being able to contrast (in reports to the Minister, for example) not only the lower two, but all three strata. The top stratum must be included in the survey if one wants to obtain a representative picture of consumption patterns in urban areas. In order to avoid in the delimitation of the top stratum the difficulties associated with identification of the lower strata, the sample of the top stratum could be developed from tax returns (declaraciones juradas) which are available at MEF.^{17/}

Distribution through time. The samples of the three strata should be equally distributed over the three months of each quarter to permit month-by-month disaggregation of observed price and consumption variables. Enumeration must, furthermore, take place with equal frequency during all days of the week.

Sample Size. The sample size in each stratum should be such that the error margin in the estimated consumption of principal staples does not exceed ten percent.

^{17/} So far, ENHI has used the 1970 sampling frame of ENCA. In the future the 1977 frame developed by ONE for the purpose of the ENAPROM survey should be used.

(d) Future Activities Regarding the Improvement of ENHI

Due to time constraints, the statistics evaluation team was unable to consolidate its findings and suggestions for modifications of ENHI into a statement of financial assistance required by OSE for the purpose of improving ENHI. Assuming that OSE officials concur with the design changes suggested above (decrease in periodicity; increase in the length of the observation period per family; and confinement to ENHI to about six large cities), the following steps must be taken prior to drawing up a statement of financial assistance needs:

- design the ENHI sample for the selected cities according to the stipulations of the last section;
- on the basis of the new sample, determine the enumerator and supervisor needs. Under the new design, the enumerator workload is six to eight household per week, depending on the time required in pilot interviews to take the inventories of food at hand;
- develop a tabulation plan and determine the content of quarterly bulletins on prices and consumption;
- spell out the data processing procedures from the time of questionnaire return to the publication of tables in quarterly bulletins.

OSE needs additional short-term technical assistance for the purpose of sample design and the development of a tabulation plan that responds to the analytical needs of the institution.

ACRONYMS

ONE	Oficina Nacional de Estadística
OSE	Oficina Sectorial de Estadística
MEF	Ministerio de Economía y Finanzas
DGAF	Dirección General de Asuntos Financieros
ENCA	Encuesta Nacional de Consumo de Alimentos
ENAPROM	Encuesta Nacional de Hogares de Propósitos Múltiples
ENHI	Encuesta Nacional de Hogares Individuales
SINEA	Sistema Nacional de Estadísticas Alimentarias
EPSA	Empresa Pública de Servicios Agropecuarios
OSPA	Oficina Sectorial de Planificación Agrícola
INN	Instituto Nacional de Nutrición
ONAA	Oficina Nacional de Apoyo Alimentario
DGC	Dirección General de Comercialización
DGAC	Dirección General de Agricultura y Crianzas

Draft Questionnaire, Revised ENHI.

1. Ubicación y Control: Same as ENHI questionnaire.
2. Composición de la Familia (Unidad de Consumo)

Nombre de la Persona r	Código	Relación con el JH <u>1/</u>	Edad	Sexo	Nivel Educación	Trabaja a tiempo par- cial o completo
	001 002 003 004 005 006 007 008 009 010 011 012 013					<u>2/</u>

1/ Relación con el Jefe de Hogar (JH):

- 1 = el mismo JH
- 2 = esposa o conviviente
- 3 = hijo/hija del JH o de la esposa o conviviente
- 4 = padre/madre del JH o de la esposa o conviviente
- 5 = hermano/hermana del JH
- 6 = otro lazo de parentesco con el JH
- 7 = sin lazo de parentesco con el JH

- 2/ parcial = 1
completo = 2
no tra-
baja = 3

4.

Inventario Inicial

Inventario Final

Producto	Código	Cantidad	Unidad de Medida	Peso bruto	en tara	Gramos neto	Cantidad	Unidad de Medida	Peso bruto	en tara	Gramos neto
1/											

1/ Utilizar lista de productos del cuestionario ENHI.

5. ¿Cuál es la ocupación principal del Jefe de hogar?

_____ ☐
(categorías y códigos por determinarse)

6. ¿Qué categoría tiene en su centro de trabajo?

Obrero ☐ 1

Empleado ☐ 2

Por cuenta propia ☐ 3

Patrono ☐ 4

Trabajador del hogar ☐ 5

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